

Appl. No. 09/719,709
Amtd. Dated July 22, 2004
Reply to Office action of June 16, 2004
Attorney Docket No. P09410-US1
EUS/J/P/04-3168

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-18 (Canceled)

19. (New) A method of utilizing an image encoder for wavelet transforming and compressing an image, the method comprising the steps of:

dividing the image into objects, wherein the objects include regions of interest;

transforming, while simultaneously compressing the image;

encoding individual segments of the objects independently, according to assigned coefficients;

encoding the separate segments as segment descriptors; and

encoding the segment descriptors into independently decodable subset descriptors.

20. (New) The method of claim 19, further comprising the step of storing the transformed and compressed image together with header information, the header information containing pointers to associated segment descriptors and associated subset descriptors.

21. (New) The method of claim 19, further comprising the step of storing the transformed and compressed image with associated shape descriptors.

22. (New) The method of claim 19, further comprising the steps of:

responsive to a request for at least one of the image objects, sending the subset descriptors that describe the requested objects according to a defined accuracy; and

sending shape descriptors relevant to the at least one of the image objects that the requester is lacking.

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23. (New) The method of claim 22, further comprising the step of sending all shape descriptors that are necessary to describe the boundaries of the at least one of the image objects requested, which are not already known to the requesting decoder.

24. (New) The method of claim 19, further comprising the step of creating a mask describing coefficients required to reconstruct different regions in the image.

25. (New) An encoder for wavelet transforming and compressing an image, comprising:

means for dividing the image into objects, wherein the objects include regions of interest;

means for transforming while simultaneously compressing the image; and

means for

encoding individual segments of the objects independently, according to assigned coefficients;

encoding the individual segments as segment descriptors; and

encoding the segment descriptors into independently decodable subset descriptors.

26. (New) The encoder of claim 25, wherein the transformed and compressed image is stored together with header information, the header information containing pointers to associated segment descriptors and subset descriptors.

27. (New) The encoder of claim 25, wherein the transformed and compressed image is stored with shape descriptors.

28. (New) The encoder of claim 27, further comprising:

means for sending, upon request, relevant shape descriptors that the requester is lacking for one of the image objects; and

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means for sending the subset descriptors that describe the one of the image objects according to a defined accuracy.

29. (New) The encoder of claim 28, further comprising:

means for sending all shape descriptors necessary to describe the boundaries of the one of the image objects requested; and

means for not sending subset descriptors already known to the requesting decoder.

30. (New) The encoder of claim 25, further comprising means for creating a mask describing coefficients required to reconstruct different regions in the image.

31. (New) An image decoder, comprising:

means for requesting and receiving an image object and associated coefficients;

means for reading an image header, wherein an associated image header comprises shape descriptors and pointers relevant to the image object;

means for recreating a mask received from a corresponding image encoder, wherein the mask describes the coefficients required to reconstruct a target region and a background region in the image object; and

means for utilizing the mask to recreate segments and underlying subsets of the image object.

32. (New) The decoder of claim 31, further comprising means for reading header information that defines the accuracy level of the image object; and

means for specifying the accuracy level defined in the header information.

33. (New) The decoder of claim 31, further comprising means for receiving shape descriptors relevant for a region of the image object that the decoder does not already have; and

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means for receiving subset descriptors describing the image objects to the specified accuracy level.